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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,643	11/24/2003	Sundaresan Ramamoorthy	200208157-1	9724
22879 7590 06/09/2008 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400				
EXAMINER				
PATEL, CHIRAG R				
ART UNIT		PAPER NUMBER		
2141				
NOTIFICATION DATE		DELIVERY MODE		
06/09/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary**Application No.**

10/723,643

Applicant(s)

RAMAMOORTHY, SUNDARESAN

Examiner

CHIRAG R. PATEL

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 13, 2008 has been entered.

Response to Arguments

Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 13 recites the limitation "said second set of discovered servers not discovered in said a)" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being obvious over Kazemi (US 7,089,281) in view of Hickman et al. – hereinafter Hickman (US 6,523,026).

As per claim 1, Kazemi discloses a method of dynamically balancing load in a system of servers, comprising:

a) monitoring for servers that are able to respond to requests directed at the system; (Col 2 lines 3-22, Col 15 line 64 – Col 16 line 8)

b) determining a performance metric for a first set of said servers discovered by said monitoring for the servers; (Col 5 line 62 – Col 6 line 8; storage servers 210 is interpreted as a first set of said servers; Col 6 lines 25-40)

c) maintaining a table comprising said performance metric for said discovered servers; and (Col 16 lines 17-24)

d) in response to receiving a request, routing said request to a selected server in the system of servers based on said performance metric, wherein the system of servers comprises the first set of discovered servers. (Col 16 lines 48-57)

Kazemi fails to disclose including actively discovering new servers in said system of servers. Hickman discloses including actively discovering new servers in said system of servers. (Col 4 lines 15-41) In reference to KSR International Co. v. Teleflex Inc., 550 U.S. -, 82 USPQ2d 1385 (2007), it would been obvious and yielded predictable results to combine the element of discovering new server in the system of servers, or

cluster in the disclosure of Kazemi to achieve the predictable results of a load balancing system which reliable, highly scaleable, and provide easy migration from existing products despite hardware or software failures.

As per claim 2, Kazemi / Hickman discloses the method of claim 1 discloses further comprising: determining a load on ones of the servers in the system of servers. (Kazemi, Col 16 lines 48-57)

As per claim 3, Kazemi / Hickman discloses the method of claim 2, further comprising: determining a stress factor for a given server based on the performance metric of the given server and the load on the given server. (Kazemi, Col 15 lines 49-63)

As per claim 4, Kazemi / Hickman discloses the method of claim 1, further comprising: determining a stress factor for ones of the servers in the system of servers based on the performance metrics. (Kazemi, Col 15 lines 49-63, Col 16 lines 48-57)

As per claim 5, Kazemi / Hickman discloses the method of claim 1, wherein the performance metric is a response time. (Kazemi, Col 6 lines 25-40)

As per claim 6, Kazemi / Hickman discloses the method of claim 1, wherein the performance metric is a response time when the servers discovered by said monitoring are unloaded. (Kazemi Col 6 lines 25-40)

As per claim 7, Kazemi / Hickman discloses the method of claim 2, further comprising: determining a stress factor for a given server based on the performance metric of the given server and the load on the given server. (Kazemi, Col 16 lines 17-24)

As per claim 8, Kazemi discloses a method of dynamically balancing load, comprising:

a) dynamically discovering a first set of servers that are able to respond to requests directed at a system; (Col 5 line 62 – Col 6 line 8; storage servers 210 is interpreted as a first set of said servers; Col 15 line 49 – Col 16 line 8)

b) determining a response time of each of the first set of discovered servers; (Col 6 lines 25-40)

c) calculating stress factors for each of the first set of discovered servers, based in part on said response time; (Col 15 lines 49-63)

d) receiving a request to the system; (Col 16 lines 17-24)

e) determining a server in the system to route the request to based on the stress factors, wherein the system comprises the first set of discovered servers; and (Col 16 lines 17-24)

f) routing said request to said server in the system determined in said e). (Col 16 lines 17-24)

Kazemi fails to disclose actively discovering new servers of said system. Hickman discloses discovering new servers of said system. (Col 4 lines 15-41) In reference to KSR International Co. v. Teleflex Inc., 550 U.S. -, 82 USPQ2d 1385 (2007), it would been obvious and yielded predictable results to combine the element of discovering new server in the system of servers, or cluster in the disclosure of Kazemi to achieve the predictable results of a load balancing system which reliable, highly scaleable, and provide easy migration from existing products despite hardware or software failures.

As per claim 9, Kazemi / Hickman discloses the method of claim 8, wherein said b) comprises determining a response time for each of the first set of discovered servers to a request. (Kazemi, Col 6 lines 25-40)

As per claim 10, Kazemi / Hickman discloses the method of claim 8, wherein said b) comprises determining a response time for each of the first set of discovered servers to a database query. (Kazemi, Col 6 lines 25-40)

As per claim 11, Kazemi / Hickman discloses the method of claim 8, wherein said c) comprises calculating the stress factor for each of the first set of discovered servers,

based on said response time and a load for each of the first set of discovered servers.
(Kazemi, Col 15 lines 49-63)

As per claim 12, Kazemi / Hickman disclose the method of claim 8. Kazemi discloses further said b) further comprises determining a response time of a second set of discovered servers not discovered in said a); said c) comprises calculating stress factors for each of the second set of discovered servers not discovered in said a), (Col 6 lines 25-40, Col 15 lines 49-63, calculates stress and response time for each server once discovered). Kazemi fails to disclose wherein the system further comprises the second set of discovered servers not discovered in said a). Hickman discloses wherein the system further comprises the second set of discovered servers not discovered in said a). (Col 4 lines 15-41, Col 29 lines 15-21) In reference to KSR International Co. v. Teleflex Inc., 550 U.S. -, 82 USPQ2d 1385 (2007), it would be obvious and yielded predictable results to combine the element of disclosing the second set of discovered servers not discovered in said a), or cluster in the disclosure of Kazemi to achieve the predictable results of a load balancing system which reliable, highly scaleable, and provide easy migration from existing products despite hardware or software failures.

As per claim 13, Kazemi / Hickman disclose the method of claim 8. Kazemi fails to disclose wherein said second set of discovered servers not discovered in said a) are reported to a load balancing agent in a configuration file. Hickman discloses wherein said second set of discovered servers not discovered in said a) are reported to a load

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balancing agent in a configuration file. (Col 11 lines 25-36, Figure 3) In reference to KSR International Co. v. Teleflex Inc., 550 U.S. -, 82 USPQ2d 1385 (2007), it would be obvious and yielded predictable results to combine the element of a node of the shepherd having maintains the official versions of the system configuration, consisting of precisely the clusters, the assignments of bases to the clusters, the state of all the bases, and the fragment map with the load balancer of Kazemi to achieve the predictable results of load balancing system which reliable, highly scaleable, and provide easy migration from existing products despite hardware or software failures.

As per claim 14, Kazemi discloses a system for balancing load, comprising:

a plurality of back-end servers that are able to service requests to the system;
(Col 16 lines 17-24; Figure 2:item 210)

a front-end server having a load balancing agent comprising a table, wherein said front-end server receives requests that are forwarded to said back-end servers, and wherein said load balancing agent is operable to: (Col 16 lines 17-24, Col 16 lines 48-57)

monitor for back-end servers that are able to service requests to the system; (Col 15 line 64 – Col 16 line 8)

determine a performance metric for the back-end servers discovered by the monitoring; and (Col 6 lines 25-40)

determine a server of said back-end servers to route a request to based on the performance metric. (Col 16 lines 48-57)

Kazemi fails to disclose including actively discovering new back-end servers. Hickman discloses actively discovering new back-end servers. (Col 4 lines 15-41, Col 8 lines 14-18) In reference to KSR International Co. v. Teleflex Inc., 550 U.S. -, 82 USPQ2d 1385 (2007), it would been obvious and yielded predictable results to combine the element of actively discovering new back-end server, or cluster in the disclosure of Kazemi to achieve the predictable results of a load balancing system which reliable, highly scaleable, and provide easy migration from existing products despite hardware or software failures.

As per claim 15, Kazemi / Hickman discloses the system of claim 14, wherein said load balancing agent is further operable to determine a load on a given back-end server. (Kazemi, Col 16 lines 48-57)

As per claim 16, Kazemi / Hickman discloses the system of claim 14, wherein said load balancing agent is further operable to determine a stress factor for ones of the back-end servers. (Kazemi, Col 15 lines 49-63, Col 16 lines 48-57)

As per claim 17, Kazemi / Hickman discloses the system of claim 16, wherein the stress factor for a given one of the back-end servers is based on the performance metric and the load on a given of the given one of the back-end servers. (Kazemi, Col 15 lines 49-53)

As per claim 18, Kazemi / Hickman discloses the system of claim 17, wherein said load balancing agent is able to determine which server of said back-end servers to route a request to based on the stress factor. (Kazemi, Col 16 lines 17-24)

As per claim 19, Kazemi / Hickman discloses the system of claim 14, wherein the performance metric is a response time. (Kazemi, Col 6 lines 25-40)

As per claim 20, Kazemi / Hickman disclose the system of claim 17. Hickman fails to disclose wherein said load balancing agent is able to include back-end servers that the load balancing agent did not discover in the determination of which server to route the request to. Hickman discloses wherein said load balancing agent is able to include back-end servers that the load balancing agent did not discover in the determination of which server to route the request to. (Col 8 lines 14-18, Col 11 lines 25-36, Figure 3) In reference to KSR International Co. v. Teleflex Inc., 550 U.S. -, 82 USPQ2d 1385 (2007), it would be obvious and yielded predictable results to include back-end servers that the load balancing agent did not discover in the determination of which server to route the request to in the disclosure of Kazemi to achieve the predictable results of a load balancing system which reliable, highly scaleable, and provide easy migration from existing products despite hardware or software failures.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chirag R Patel whose telephone number is (571)272-7966. The examiner can normally be reached on Monday to Friday from 7:30AM to 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia, can be reached on (571) 272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pairedirect.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

/C. R. P./

Examiner, Art Unit 2141

/Jason D Cardone/
Supervisory Patent Examiner, Art Unit 2145